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SENTIMENTAL ANALYSIS ON SOCIAL MEDIA FOR EMOTION CLASSIFICATION

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ABSTRACT

The method of determining an image or video sentiment is known as sentiment analysis. Opinion mining or emotion Artificial Intelligence is other terms for it (AI). People leave posts on social media about events they've attended, and they're curious if the majority of other people had a favorable or negative experience with the same event. Sentiment Analysis can be used to obtain this assortment. Sentiment analysis images or videos on product reviews, events, and other topics from multiple individuals and categorizes them as good, negative, or neutral. Polarity categorization is another name for this. Image or videos analysis and computational linguistics can be used to perform sentiment analysis. The goal of this study is to compare the effectiveness of several machine learning algorithms when performing sentiment analysis on social media data. To determine the sentiment polarity of images, the suggested method use term frequency. In image classification, the performance of Multinomial Naive Bayes, SVM, and Logistic regression methods were examined. According to the findings, logistic regression has the highest accuracy when combined with the n-gram and bigram models.

Keywords: Sentiment Analysis, Social Media, Emotion Classification, Sentiment Computing.

I. INTRODUCTION

Nowadays, people from all around the world use social media sites to share information. Twitter for example is a platform in which users send and read posts known as 'tweets' and communicate with different communities. Users share their daily lives, post their viewpoint on everything such as brands and places. Companies can benefit from this huge platform by collecting data related to opinions on them. The aim of this system is to present a model that can perform sentiment analysis of real data collected from social media. Data on social media is highly unstructured which makes it difficult to analyse

Sentiment analysis on a user's activities would generate a report for the admin of a group that the user belongs to; such as the Head of a department or a college counselor. Reports can be generated by the analysis done on the data of the users on the platform. According to the posts and the actions of the users, the data that is generated is analyzed by the sentiment model. The administrators may take further actions based on the reports that can be generated using the results of the sentiment analysis model. In a corporate world or a university, it can be considered important to keep track of the related population's sentimental behavior towards the institution as it gives a great amount of detail on how a user feels about being a part of that institution and in what way should the institution engage further with the concerned user. The correct analysis performed on the students might help determine their 'attitude' which the companies visiting the Institute for hiring the students can use to choose the right candidate. A social media platform with the ability to perform sentiment analysis and produce a report for the 'high level' users is not a mere content sharing platform anymore. It becomes a full-fledged authoritative tool that would facilitate the decision-making process

II. RELATED WORK

Have proposed VADER, which is a simple rule-based model for general sentiment analysis, and compare its effectiveness to common state-of-practice benchmarks including LIWC, ANEW, SentiWordNet, and machine learning techniques like Naive Bayes and Support Vector Machine algorithms. VADER then combines these lexical features with general rules of grammatical and syntactical ways for expressing and emphasizing sentiment intensity. As compared to the normal technique Vader has the advantages. First, it is both quick and

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computationally economical. It takes a fraction of a second to analyze with VADER can take hours when using more complex models like SVM. Second, the rules used by VADER are accessible.

Has presented how to program a machine to analyze the different grammatical words, cultural variations, take out emotions, and get sentiment and meaning behind those words using machine learning techniques. The author has made a comparison among support vector machines, naïve bayes, and maximum entropy classifiers regarding sentence-level sentiment analysis for depression measurement. The author has examined the performance of our proposed methods on two datasets, twitter dataset, and 20newsgroups.

Have discussed challenges and opportunities in Online Social Networks (OSN). They have highlighted two main challenges; first, it is very important for OSN users not only to share media content but also to receive the specific media they want to see more often. Second, to secure users who are followed by a greater number of users and for them who share too much of their personal information. The author has focused his attention on the relevant research challenges regarding semantics and security. The author has introduced the challenges of sentiment detection and coping with phishing attacks, Sybil attacks, and spamming. Thus this paper has outlined a new research agenda in the field of OSN as well as is known for everyday users.

III. EXISTING SYSTEM

The current system of social media platforms provides little or no freedom to the administrators of important accounts like businesses or colleges to analyse the sentiments related to their work. The services available are very limited and charge a fortune for the right kind of analysis. Sentiment analysis is practiced in very few fields in the current technological timeline. Social media platforms use it to some extent. However, it doesn't provide a proper workaround. The administrators don't have the privilege to perform analysis on users related to their circle such as students of a university or employees of a business.

IV. PROPOSED SYSTEM

A social media platform with the ability to perform sentiment analysis for 'high-level users' is the desired outcome of this project. The platform would allow almost all activities that a normal social media platform does. The users would be able to share content and view other users' content and also express their personal views on the same. A user can be enrolled in different groups by an entity such as a business or a university. The user would also be able to share content from this platform to other social media platforms. Also, certain privileges are given to the admins using which the admins can make their posts compulsory. As a result, all the users for whom the post is made compulsory will have to respond to the post. This can be used by universities where the admins want certain actions on their posts in the form of feedback. The users can also share the post privately with a group of users on the platform. The other aspect of the project is the sentiment analysis part where all the activities of a user in a group would be analyzed.

The flow diagram above depicts a high-level view of the proposed architecture. The user, as on any other social media platform, would perform an activity such as posting something. User's reactions such as likes or comments on the other users' posts will also be rated, such as if the comment is positive then the user who is commenting, its score will be increased, similarly if a user posted something depressing then the user will get a negative score. For argument's sake, let us say that the user expressed their grief about the decision of their university to increase the minimum required attendance from 75% to 80%. This post, in a traditional platform, would be stored in the DB as it is. However, in our proposed system, the post would be rated first and then stored in the DB along with the rating. The rating would be from -1 to +1. This rating and the post stored in the DB would be further used by the system to analyze it along with other related items in the DB and then generate a report for the high-level user to study. Let's say that in our case, the report suggests that about 79% of the concerned population is unhappy with the new decision of the university. With these results, the admin may further decide to take any action or may simply ignore it. The mechanism of the model is such that it analysis the likes, comments and posts of the users. A model that contains different lexicons and NLP libraries and has a set of grammar and positive and negative words is used. According to the analyses, reports are generated and displayed on the dashboard of the admin. Sentiment analyses are performed and the overall score of the users according to their tasks on the platform is calculated. Through these analyses, the admins can take necessary actions on it.

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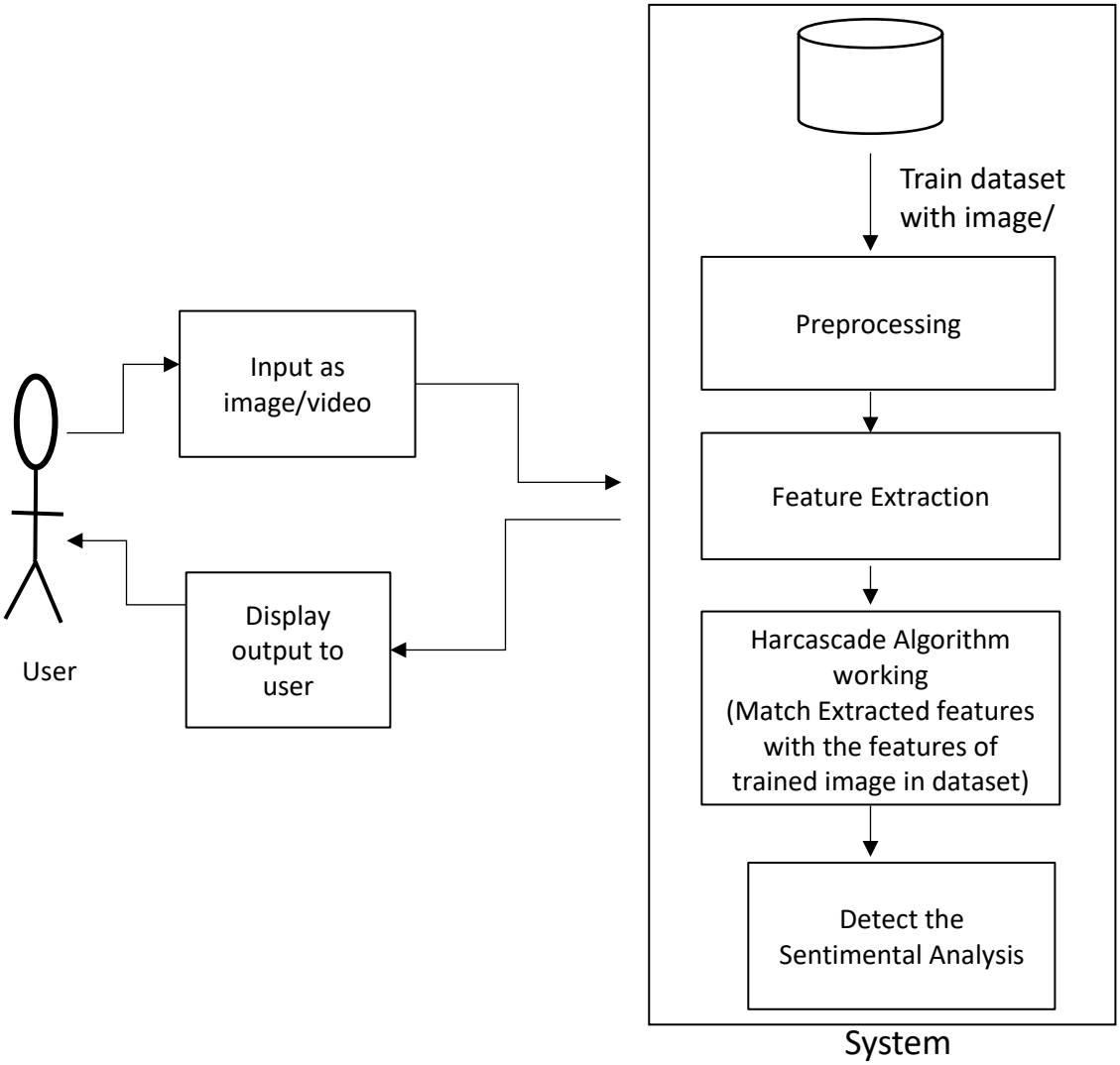

V. CONCLUSION

The main motive behind our work is to study the emotions of the users through the social media platform and analyze their behavior and how it affects everyone on the platform positively and negatively. In a way, the use of sentiment analysis helps in feedback analysis, competitor monitoring, etc. Our solution would provide various groups like businesses or universities to analyze the sentiments of the users related to their circle. The analysis will help universities to make their social media platform for the use of their institute, The analysis would not only help them improve their future activities but would also help in finding alarming situations, such as depressed users. The solution uses modern technologies that make the application more scalable, fast, robust, and secure. The users would still retain their privacy as their activities won't be tracked. Rather, they would only be analysed. It also gives escalated privileges to the administrators such as analyzing the content on the platform, broadcasting messages, creating groups, etc.

VI. REFERENCES

[1] B. Liu, "Sentiment analysis and opinion mining," Synthesis Lectures on Human Language Technologies, vol. 5, no. 1, pp. 1–167, May 2012.

[2] B. Pang, L. Lee, and S. Vaithyanathan, "Thumbs up?: sentiment classification using machine learning techniques," in Proceedings of the ACL-02 conference on Empirical methods in natural language

processing - Volume 10, ser. EMNLP'02. Stroudsburg, PA, USA: Association for Computational Linguistics, 2002, pp. 79–86.

[3] V. Ng, S. Das gupta, and S. M. N. Arifin, "Examining the role of linguistic knowledge sources in the automatic identification and classification of reviews," in Proceedings of the COLING/ACL on Main Conference Poster Sessions, ser. COLING-ACL '06. Stroudsburg,PA, USA: Association for Computational Linguistics, 2006,pp. 611–618.

[4] J. Zhao, K. Liu, and G. Wang, "Adding redundant features for crfs-based sentence sentiment classification," in Proceedings of the Conference on Empirical Methods in Natural Language Processing, ser.EMNLP '08. Stroudsburg, PA, USA: Association for Computational Linguistics, 2008, pp. 117–126.

[5] P. Melville, W. Gryc, and R. D. Lawrence, "Sentiment analysis ofblogs by combining lexical knowledge with text classification," in Proceedings of the 15th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, ser. KDD'09. New York,NY, USA: ACM, 2009, pp. 1275–1284.

[6] A. L. Maas, R. E. Daly, P. T. Pham, D. Huang, A. Y. Ng, and C. Potts,"Learning word vectors for sentiment analysis," in Proceedings of the 49th Annual Meeting of the Association for Computational Linguistics: Human Language Technologies - Volume 1, ser. HLT'11.Stroudsburg, PA, USA: Association for Computational Linguistics,2011, pp. 142–150.

[7] D. Jiang, Xiangfeng Luo, Junyu Xuan and Zheng Xu, [3] Sentiment computing for the news event based on the social media Big Data´ IEEE Access pp. 1-6, 2016.

[8] D. Tang, B. Qin, and T. Liu, [3]Learning semantic representations of users and products for document level sentiment classification,´ in Meeting of the Association for Computational Linguistics and the International Joint Conference on Natural Language Processing, 2015.

[9] J. Xuan et al., "Uncertainty analysis for the keyword system of web events", IEEE Trans. Syst. Man Cybern. Syst., vol. 46, no. 6, pp. 829-842, 2016.

[10] Abinaya. R, Aishwaryaa. P, Baavana. S, [3]Automatic Sentiment Analysis of User reviews´, IEEE International conference on Technological Innovations in ICT for Agriculture and Rural Development, 2016, pp 158- 162.

[11] Y. Yamamoto, T. Kumamoto, A. Nadamoto, "Multidimensional sentiment calculation method for twitter based on emoticons", Int. J. Pervas. Comput. Commun., vol. 11, no. 2, pp.212-232,2015.